

DOE Transmission Reliability Program Peer Review

DOE National Transmission Grid Study

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May 20, 2002



DOE National Transmission Grid Study (NTGS)

- Called for in National Energy Policy – directed by DOE Office of the Secretary
- Technical support to DOE coordinated by CERTS (Eto - lead)
- Three public workshops held: Detroit, MI – Sep. 24; Atlanta, GA – Sep. 26; Phoenix, AZ – Sep. 28
- Six issues papers prepared
 - Transmission System Operation and Interconnection
 - Reliability Management and Oversight
 - Alternative Business Models for Transmission Ownership and Operation
 - Transmission Planning and the Need for New Capacity
 - Transmission Siting and Permitting
 - Advanced Transmission Technologies

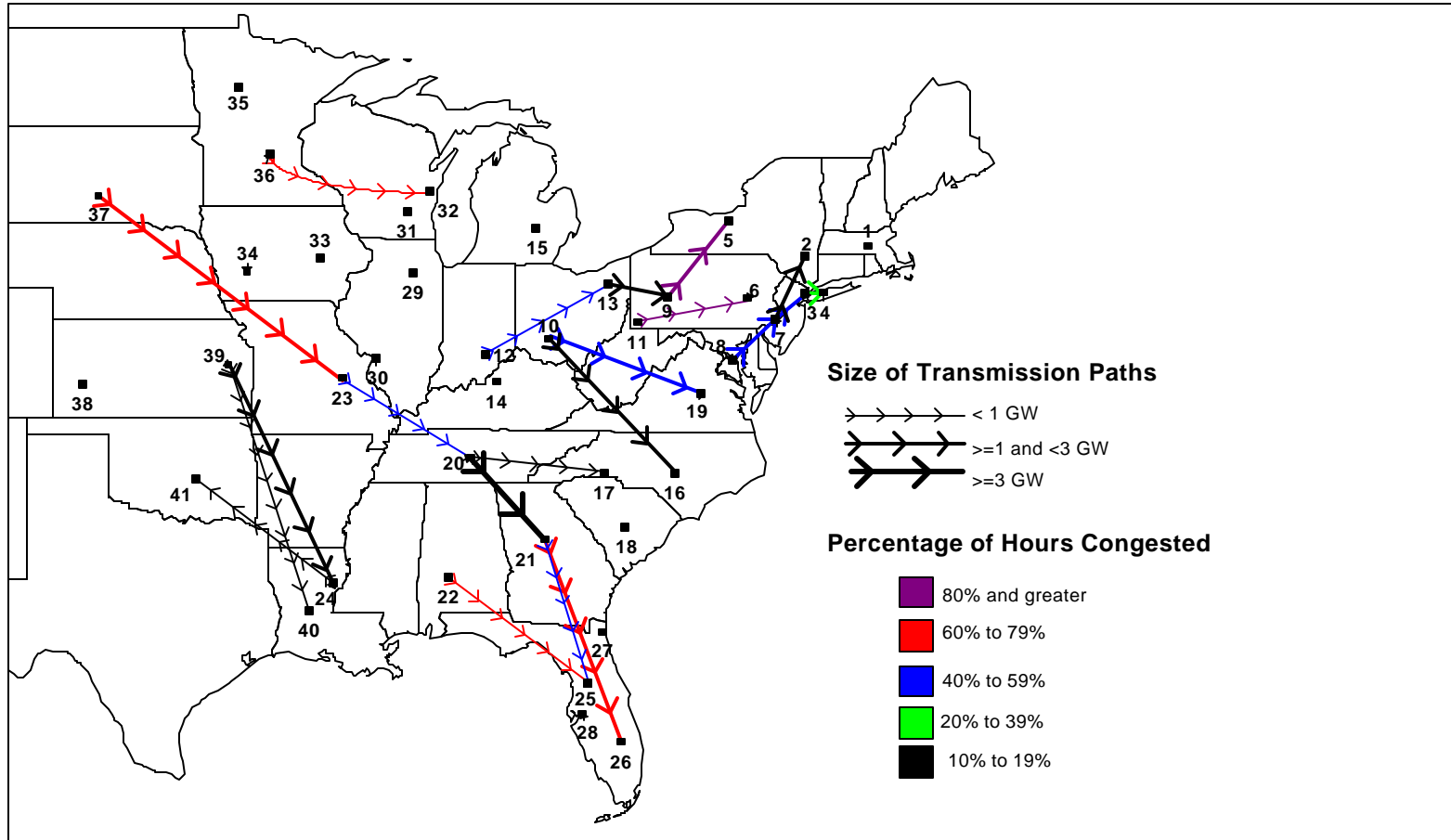


NTGS Findings

- Transmission system improves reliability and lowers costs to consumers
 - Wholesale electricity trade saves ~\$13 billion annually
- Transmission bottlenecks have recently emerged that hinder trade and lower reliability – some serious enough to affect national interests
 - Caused by under-investment in new transmission facilities
 - Exacerbated by incomplete transition to competitive wholesale markets
 - Costs of congestion for 4 Independent System Operators (ISOs) today estimated to be at least \$500 million annually



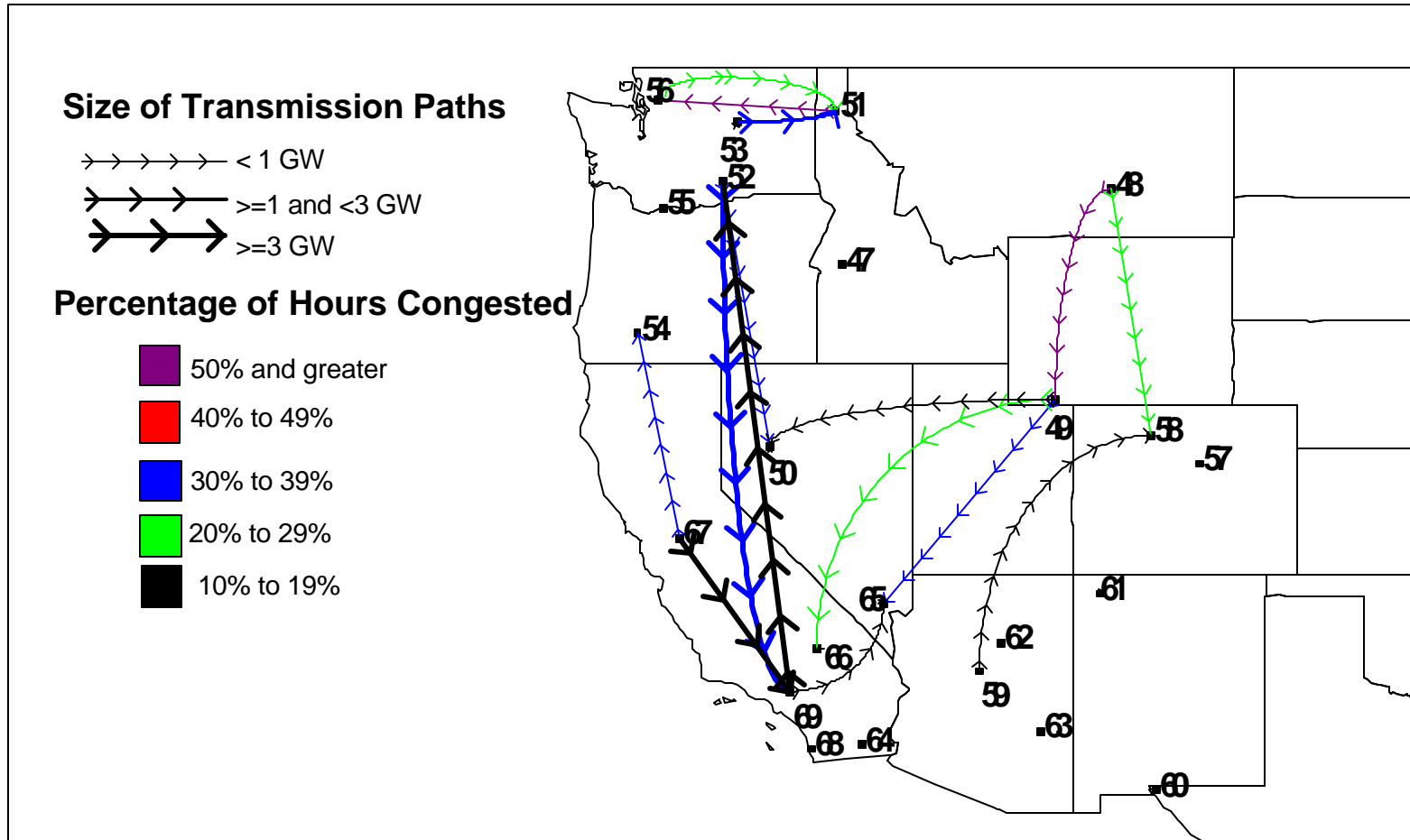
Eastern Interconnection: Transmission Paths Congested >10% of the Time



National Transmission Grid Study. POEMS Base Case Scenario



Western Interconnection: Transmission Paths Congested > 10% of the Time



National Transmission Grid Study. POEMS Base Case Scenario



NTGS Recommendations

- National interest in relieving transmission bottlenecks
 - Designate National-Interest Transmission Bottlenecks—
new tools needed
 - Nationalization and coast-to-coast interconnection are not
currently envisioned

- DOE's Commitment and Leadership
 - Create Office of Electricity Transmission and Distribution –
consolidate policy, R&D, support the efforts of the Power
Marketing Administrations



NTGS Recommendations (cont'd)

- Complete the transition to competitive, regional wholesale electricity markets
 - Establish Regional Transmission Organizations (RTOs)—address tax issues, transition issues for non-IOUs
 - Increase regulatory certainty and focus – address rate freezes; consider Performance-Based Ratemaking (PBR); interest in merchant transmission
- Improve operations – delay need for new facilities
 - Price transmission to reflect true costs – congestion pricing
 - Increase role of voluntary customer load reduction and targeted energy efficiency and distributed generation— ensure regional activities
 - Use improved real-time data and analysis of transmission system
 - Ensure mandatory compliance with reliability rules— penalties commensurate with risks posed to system reliability

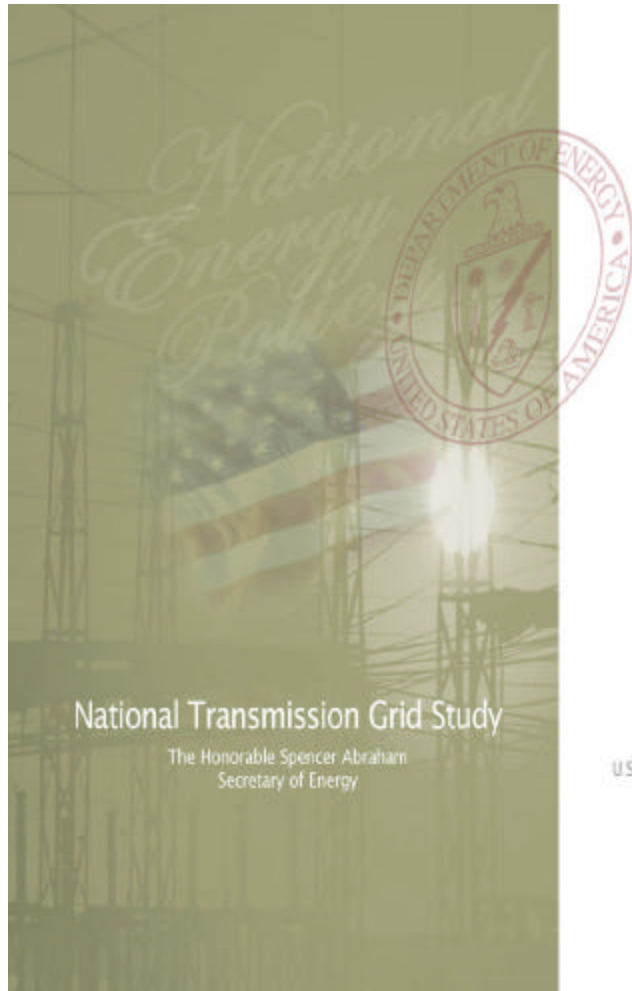


NTGS Recommendations (cont'd)

- Effective and Timely Investments – when needed
 - Implement regional transmission planning – RTO authority to address bottlenecks; consider wide range of alternatives
 - Accelerate siting/permitting of needed facilities – consistent region-wide timelines; better coordination among federal agencies; grant limited siting authority to FERC
 - Ensure timely introduction of advanced transmission technologies
 - coordinate funding for DOE transmission R&D; establish industry cost-shared national transmission test facilities
 - Enhance physical and cyber security of the transmission system



DOE National Transmission Grid Study



A complete list of the 51 specific recommendations can be found in a DOE press release available at www.energy.gov/HQPress/releases02/maypr/pr02080.htm.

The National Transmission Grid Study Report and Issue Papers can be found on the Department of Energy NTGS Web site <http://www.ntgs.doe.gov> and <http://www.energy.gov/NTGS/reports.html>

